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ARBOR DAY.

LESSON OF THE DAY.

The lesson of Arbor Day is the use and value of the tree in the life of the Nation. It should therefore be the aim of the teacher so to observe the day as to convey this lesson clearly and impressively. The diversion of setting out a few trees, the exercises with which the school hours are enlivened, though all-important in exciting the interest and calling forth the enthusiasm of the scholars, may well be regarded as a means to the desired end rather than as the end itself. The sentiments and emotions aroused on Arbor Day pass only too quickly; the important thing is that permanent results be left—lasting impressions in the minds of the children, and, flourishing in the earth, an object lesson in a tree plantation of use or beauty, or both combined.

The tree that is significant in the life of the Nation is, of course, the forest tree. Isolated trees, along the roadside, in the city streets, or in the school yard, please the eye and cool the air with their refreshing shade. But the forest of trees, where wood is growing to supply material for homes, for fuel, for a hundred industries; where the forest litter is storing the waters for streams to quench men's thirst, to irrigate their lands, to drive their mills, to fill their rivers deep for the vast traffic of inland navigation; in a word, the forest as producer and custodian of the necessaries of life and happiness, is the true message of Arbor Day.

Forestry is based on this idea of the forest, and all its teachings aim to put this idea into actual practice. As a science, forestry secures the exact knowledge of forest life which makes it possible to cooperate with nature in bringing the forest to its very fullest usefulness as a source of wood, as a protection to the soil, or as a natural reservoir. As an art, forestry applies this knowledge for the good of mankind. Thus Arbor Day is the time for imparting especially to children such of the clearest and simplest of forest laws as their minds are ready to receive. It is, of course, impossible to go profoundly into the subject, and quite as unnecessary. But, however modest the work undertaken on Arbor Day, it is by no means difficult to make that work tell in the right direction by bringing home its connection with the larger and simpler truths of forestry. The planting of a few trees, without reference to the commercial utility and protective value of forests, is but a small part of the work of the day.

29698—No. 96—07 M

NATURE STUDY AND FORESTRY.

That the elements of forestry are highly suited to interest the mind and appeal to the affections of the child is now well established, and is due principally to the fact that the forest is an active and performing thing, and the home of wild life. The child mind, from very infancy, has the inquiring spirit of an investigator. But the direct appeal to the child's attention and fancy, as to those of the children among races, the barbarians, is made not by the abstract or the inanimate, nor by causes and laws, but by the concrete and external forms of nature. The crystal or the weather, the rocks or the stars, have their strongest attraction for a later time; but for the half-dozen years between the ages of 6 or 7 and 13 or 14—the age for nature study—it is the beasts, the insects, and the birds, the flowers with their beauties, and assuredly the deep forest in its strength and mystery, the dwelling place of these creatures and the place chosen for adventure by youth, that keep the spell to charm and hold the child discoverer.

This is borne out by the methods of nature's own schooling. Through instinct the mother, civilized or savage, is led unerringly to the fable and the lore of the woods for the persuasive tales wherewith to satisfy the restless and imaginative curiosity that is so nearly the complete definition of the child mind; with the story of the cruel wolf, the thundering torrent, the wise raven, the mighty oak, she corrects her infant's naughtiness or soothes its petulance, weariness, or fright. And so as the child advances, and teaching, brought indoors, becomes more formal and sedentary, it is the true pedagogic instinct which still continues to keep constant and animated the touch between the young faculties and the real world. This is, indeed, the whole sphere of nature study—to preserve, with what we can retain of its first sincerity and freshness, the inborn zest for original discovery in the teeming field of life. Nature study, with its aquaria and herbaria, its window boxes, its butterfly collections, is the true preparation for science, which follows the same ways of observation and experiment: both lead to useful knowledge through the one door of reality.

FOREST TOPICS TO GROUP ABOUT ARBOR DAY.

What child has not seen a muddy freshet? Yet this sight, so common in the spring, is full of suggestion for a forest lesson. The stream is discolored by the earth which it has gathered from the soil. This carries us back to the stream's source, in the forest springs. Again, it shows us with what force the water has rushed over the exposed ground where there was no forest to shield and bind it. In just this way the Mississippi tears down and flings into its bed, each summer, more soil than will be dredged with years of costly labor to make the Panama Canal. An experiment with fine and coarse soils stirred quickly in a tumbler of water and then allowed to settle explains how the stream continues muddy while it runs swiftly, and how it clears again as it slackens on more level stretches, dropping the soil to the bottom. On any steep, plowed hillside, or on any railroad or trolley embankment, exposed soil may be seen washing with the rain. A forest on a mountain slope may be pictured by a cloth upon a tilted table; then if water be poured on the higher edge it will creep downward through the cloth and drip slowly from the lower edge, as would rain falling upon the forest. If now the cloth be plucked off, and the water still poured, we may observe at once what happens when such a forest is destroyed.

Most articles in common use, clothing excepted, are made of wood alone or in combination with metal. Here is an excellent subject for an Arbor Day composition. Let one but think of the poverty and backwardness of life without the material that is supplied only by the forest. No single one of nature's gifts, after air and water, is more freely offered or readily enjoyed than wood. We live chiefly in wooden houses and burn wood to keep warm. Tables and other furniture, carriages and garden implements, matches and paper are taken in whole or in part from the forest. Wood is easy to procure and to work. How simple a matter to cut a sapling for a fishing rod; how hard to smelt and cast a fishing rod from iron ore. Boys who have grumbled over having to split a tough stick to feed the kitchen fire would have better cause to grumble if wood had to be painfully mined from the rock. Nails and screws, saw and plane and chisel, suffice for a multitude of smaller repairs which anyone can make; to cut or rivet metal is no such easy affair.

The flowers and seeds of trees are interesting subjects of investigation. The bursting of the blossoms on elm and red maple, the tassel-like catkins of cottonwood, willow, and alder are among the earliest signs of spring. Some of the most fascinating facts of botany are easily studied in tree flowers. Black locust, basswoods, and yellow poplar, for instance, carry perfect flowers that pollenize their own pistils; chestnut, beech, pines, and spruces, on the other hand, have their staminate and pistillate flowers distinct, though on the same tree, while such species as the cottonwood, the willows, alders and ashes, the persimmon, and the boxelder, bear only the staminate or only the pistillate flowers on a single tree. The ingenious and often intricate devices of nature to secure cross-fertilization are well worth inquiring into.

Many of the early flowering trees mature their seeds before the school year ends. The adaptations by which forest trees secure the distribution of their seeds are diverse. Some seeds, such as the nuts and hickories and chestnuts, are distributed by squirrels, foxes, bears, and coyotes, and by birds, others by the wind, and yet others by floods or running waters. Hedge-rows of locust trees commonly spring up where the seeds, after falling on the frozen snow, are driven by the winter gusts to lodge among the brush and roots along the fences. Rows of juniper and cherry are just as often grown from seeds dropped by birds. Willows are mainly found along streams and oozy ground, not because they always prefer so wet a soil, but because the fresh, fine mud beside the water gives the seed-bed most favorable to the germination of the seed.

A whole world of undiscovered yet most rewarding truth can be opened through this gateway. And the story of flower and seed conveys very vividly the insistent purpose of nature to renew the forest and carry it, undepleted, from one generation to another.

Tree seeds collected by the children, toward the close of the school year, may be planted by them at home, preferably out of doors, where they will furnish a striking demonstration of the sturdy force of tree life, and at the same time, if carefully tended, supply a few seedlings for next year's Arbor Day planting. For such a project the seeds of elms, soft maples, poplars, cottonwoods, and willows, all of which may be found in the spring, offer the best of material.

A number of similar subjects will suggest themselves; for example, a description of the largest, the most useful, the strongest, or the most beautiful of trees; or telling how the age of trees is counted by the annual rings. There is the basis for one story in the age of the giant Sequoias, among the oldest trees in the world, which have stood, some of them, upward of 4,000 years; and for another in the newspaper, which, like most books and many inferior papers, is a sheet of wood that has been ground and pressed and dried so that it will be light and smooth enough to take ink, and thus scatter everywhere the news of the doings of the world.

PLANTING SUGGESTIONS.

The proper season for planting is not everywhere the same. Where spring is the best season—north of the thirty-seventh parallel generally—the right time is when the frost is out of the ground and before budding begins.

The day to plant is almost as important as the season. Sunny, windy weather is to be avoided; cool, damp days are the best. For this reason it is well to leave the date for Arbor Day unfixed. All exercises are better deferred until the planting is done.

Trees can not be thrust into a rough soil at random and then be expected to flourish. They should be planted in well-worked soil, well enriched. If the trees can not be set out immediately after being secured, the first step is to prevent their roots drying out in the air. This may be done by standing the roots in a "puddle" of mud or "heeling-in" the trees by burying the roots deep in fresh earth.

In planting they should be placed from two to three inches deeper than they stood originally. Fine soil should always be pressed firmly—not made hard—about the roots, and two inches of soil at the top should be left very loose, to act as a mulch to retain the moisture.

Small seedlings may be secured easily and cheaply. If these are set out in good numbers after the pattern of a commercial plantation they will become in due time a true forest on a small scale. No matter how few the trees, they may be made to illustrate planting for some useful purpose.

The scope of planting may sometimes be broadened by securing permission for the children to plant a small block of trees in some field unsuited for crops, and in this way the work can be done just as it would be done on a larger scale by the forester.

Outside the scope of the actual planting, it is well to bear in mind that Arbor Day is not the only day in the year on which trees deserve to be remembered and cared for. They need care throughout the season. Watching the plantation thrive under right treatment greatly adds to the educational value of the work, and to its success, which should be its best lesson.

It is all important that the plantation should serve as a model of what can be accomplished along these lines. Then, when the children are grown men and women, they will find great satisfaction in the work of their school days.

Approved:
James Wilson,
Secretary.

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